

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004462**Date Inspected:** 30-Oct-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1430**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2230**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Bo**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

On this day Caltrans Assurance Inspector (QA) Larry Viars was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

**Heavy Machinery Bay 3:**

QA performed Phased Array Ultrasonic Testing (PAUT) after Caltrans NDE technicians performed the preliminary scan with conventional Ultrasonic Testing (UT) in the tacked areas of the Partial Joint Penetration (PJP) welds joining u-ribs to deck plates. This QA inspector performed 100 % PAUT on DP380-001 and DP136-001 in the areas that exhibited crack like indications with conventional UT. This QA inspector confirmed crack like indications as follows:

**DP-136-001: (PAUT)**

Weld# 1 – 2 tacks PAUT'ed – 2 indications found noncompliant

Weld# 2 – 2 tacks PAUT'ed – 0 indications found noncompliant

Weld# 3 – 6 tacks PAUT'ed – 1 indication found noncompliant

Weld# 5 – 3 tacks PAUT'ed – 2 indications found noncompliant

Weld# 6 – 2 tacks PAUT'ed – 2 indications found noncompliant

Weld# 7 – 2 tacks PAUT'ed – 1 indication found noncompliant

Weld# 8 – 1 tack PAUT'ed – 0 indications found noncompliant

Weld# 9 – 3 tacks PAUT'ed – 0 indications found noncompliant

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## WELDING INSPECTION REPORT

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Weld# 10 – 3 tacks PAUT'ed – 1 indication found noncompliant

DP-380-001: (PAUT)

Weld# 3 – 1 tacks PAUT'ed – 0 indications found noncompliant

Weld# 6 – 4 tacks PAUT'ed – 0 indications found noncompliant

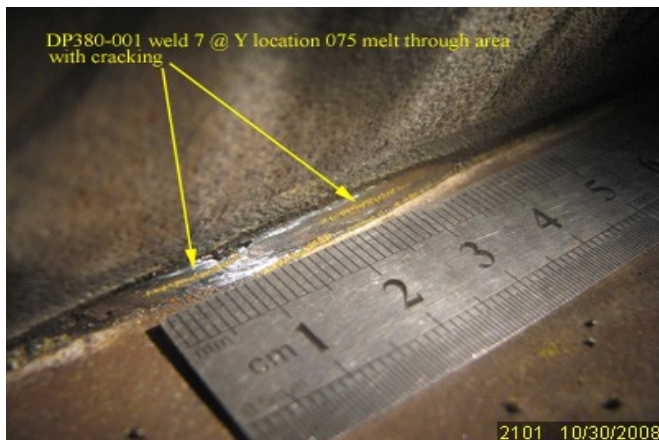
Weld# 7 – 1 tack PAUT'ed – 1 indication found noncompliant \* see additional information below

Weld# 8 – 3 tacks PAUT'ed – 2 indications found noncompliant

NOTE: Phased Array testing was performed in accordance with specification, UT 04-012024.

The Caltrans QA inspector found an indication during phased array testing on weld DP380-001 weld 007 at Y location 075 mm that was well above 100% of full screen height on the a A scan presentation at zero db on the phased array unit. The end of the U-rib was accessible and a visual inspection was performed on the melt through area corresponding with the indication found with phased array. Two cracks with a combined length were observed on the melt through area and verified with magnetic particle testing. These areas were shown to ZPMC QC Sun Bo and Wang Lu and ABF QC Mike Williams. Please see the attached photo below of above mentioned cracks.

No other observations were made.



### Summary of Conversations:

As identified within the contents of this report.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Peter Dautermann, 150 0219 9593, who represents the Office of Structural Materials for your project.

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**Inspected By:** Viars,Larry

Quality Assurance Inspector

**Reviewed By:** Wright,Mark

QA Reviewer

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